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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,321	01/18/2002	Santosh C. Lolayekar	MARA-01000US1 SBS	7045

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EXAMINER

HERNANDEZ, OLGA

ART UNIT	PAPER NUMBER
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2144

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/051,321

Applicant(s)

LOLAYEKAR ET AL.

Examiner

Olga Hernandez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/18/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/18/02 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11802:42903.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4, 8, 15, 18 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Blumenau et al (6,438,595).

As per claim 1, Blumenau discloses a plurality of linecards, each including a plurality of ports and a plurality of processing units, wherein each processing unit is associated with at least one port, thereby distributing processing resources amongst linecards ports (column 5, lines 13-31, figures 1-3).

As per claim 4, Blumenau discloses the linecards designed to handle packets formatted in accordance with any respective one of a plurality of protocols (column 5, lines 23-31).

As per claim 8, Blumenau discloses processing the packets at wire speed (figures 1-3).

As per claim 15, Blumenau discloses a plurality of linecards, each including a plurality of ports and a plurality of processing units, wherein each processing unit is associated with at least one port and is associated with a memory; a CPU in

communication with the processing units; and a fabric in communication with each linecard, thereby allowing packets to pass from an ingress linecard to an egress linecard (column 5, lines 13-31, figures 1-3).

As per claim 18, Blumenau discloses the memory associated with each processing unit (column 13, lines 9-62).

As per claim 21, Blumenau discloses a plurality of linecards, each linecard including: at least one port, and means associated with each port for performing wire speed processing of packets (column 5, lines 13-31, figures 1-3).

Claims 20, 35 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Nguyen et al (2002/0004883).

As per claim 20, a plurality of linecards, each linecard including: at least one port and at least one processing unit, wherein each processing unit is associated with at least one port, and each processing unit includes a classifier, a virtualizer, and a translator; a CPU in communication with each processing unit; and a fabric in communication with each linecard (figures 1-8, paragraphs [0013], [0023], [0025]-[0028], [0030], [0037]).

As per claim 35, Nguyen discloses a switch; a server in communication with the switch, the server operating in accordance with a first protocol; a storage device in communication with the switch, the storage device operating in accordance with a second protocol; the switch having an input for receiving a data access command for a virtual target formatted in accordance with the first protocol; and the switch having an

output for sending the data access command to a physical target formatted in accordance with the second protocol at wire speed (figures 1-8, paragraphs [0025]-[0029], [0037]).

As per claim 40, Nguyen discloses the server being remotely located with respect to the switch (paragraphs [0025]-[0029], figures 1-8).

As per claim 41, Nguyen discloses the storage device being remotely located with respect to the switch (paragraphs [0025]-[0029], figures 1-8).

As per claim 42, Nguyen discloses receiving a packet from an initiator destined for a virtual target and formatted in accordance with a first protocol; and sending the packet to a physical target formatted in accordance with a second protocol at wire speed (figures 1-8, paragraphs [0025]-[0029], [0037]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau et al (6,438,595) in view of Madonna et al (5,596,569).

Blumenau does not teach how to add/insert and/or remove a plurality of linecards. However, Madonna teaches how to add and/or remove a plurality of linecards (column 7, lines 20-24). Thus, it would have been obvious to one skill in the

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art to combine Madonna's architecture of linecards with Blumenau's invention in order to allow each card to function as if it was in isolation from the other cards of the switch; so, the desired DSP and packet engine functions are not lost by a single failure.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau et al (6,438,595) in view of Blumenau et al (2001/00200254).

As per claim 5, Blumenau ('595) does not teach a first set of linecards in the plurality is designed to send and receive packets in accordance with an SCSI protocol; and a second set of linecards in the plurality is designed to send and receive packets in accordance with a Fibre Channel protocol. However, Blumenau ('254) teaches it in paragraph [0049] and figure 2. Thus, it would have been obvious to one skill in the art to combine Blumenau's inventions in order to selectively forward non-media access request from the first network device to the first logical volume when the configuration information identifies that no data access to the first logical volume from the first network device is authorized.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau et al (6,438,595) in view of Parthasarathy et al (6,831,916).

Blumenau does not teach the Infiniband protocol. However, Parthasarathy teaches it in column 10, line 1. Thus, it would have been obvious to one skill in the art to combine the Parthasarathy's protocol with Blumenau's invention in order to minimize the pipelining and data processing with minimal latency.

Claims 7, 9-14, 16-18, 24-29, 32-34, 38, 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau et al (6,438,595) in view of Blumenau et al (6,260,120).

As per claims 7, 9 and 27, Blumenau ('595) does not teach receiving a packet at a first port of a first linecard destined for a virtual target and formatted in accordance with a first protocol, determining if the packet is a data or control packet, and if the packet is a data packet, sending the packet formatted in accordance with a second protocol to a physical target, all without buffering the packet. However, Blumenau ('120) teaches it in the abstract, column 12, lines 9-15, column 13, lines 1-10. (Note, when the storage is denied the packet/data is a control packet to perform a function, data packet includes, but not limited to video data). Thus, it would have been obvious to one skill in the art to combine Blumenau's inventions in order to minimize the number of servers by reducing the number of objects to be managed.

As per claim 10, Blumenau does not teach ('595) receiving a packet at a first port of a first linecard destined for a virtual target and formatted in accordance with a first protocol, determining if the packet is a data or control packet, and if the packet is a data packet, sending the packet formatted in accordance with a second protocol to a physical target, all at wire speed. However, Blumenau ('120) teaches it in figures 1-4, 7, 21-30 and column 24, lines 56-67, columns 25 and 26. Thus, it would have been obvious to one skill in the art to combine Blumenau's inventions in order to minimize the number of servers by reducing the number of objects to be managed.

As per claim 11, Blumenau does not teach ('595) performing the storage service at request of a second device without any additional involvement of the second device. However, Blumenau ('120) teaches it in (abstract). Thus, it would have been obvious to one skill in the art to combine Blumenau's inventions in order to minimize the number of servers by reducing the number of objects to be managed.

As per claim 12, Blumenau does not teach ('595) the second device being a server. However, Blumenau ('120) teaches it in abstract. Thus, it would have been obvious to one skill in the art to combine Blumenau's inventions in order to minimize the number of servers by reducing the number of objects to be managed.

As per claim 13, Blumenau does not teach ('595) the second device being a management station. However, Blumenau ('120) teaches it in abstract. Thus, it would have been obvious to one skill in the art to combine Blumenau's inventions in order to minimize the number of servers by reducing the number of objects to be managed.

As per claim 14, Blumenau does not teach ('595) the mirroring. However, Blumenau ('120) teaches it in column 20, lines 15-16. Thus, it would have been obvious to one skill in the art to combine Blumenau's inventions in order to minimize the number of servers by reducing the number of objects to be managed.

As per claim 16, Blumenau does not teach ('595) each processing unit includes a packet aggregation and classification unit and a packet-processing unit; and associated with a memory. However, Blumenau ('120) teaches it in figures 1-4, 7, 21-30, which memories are functionally equivalent to CAM and SRAM. Thus, it would have been

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obvious to one skill in the art to combine Blumenau's inventions in order to minimize the number of servers by reducing the number of objects to be managed.

As per claims 17 and 18, constructing formerly integral structure in various elements and/or integrating different parts in one, involves only routine skill in the art. *Nrewin v. Erlichman*, 168 USPQ 177, 179 and *In re Hotte*, 177 USPQ 326, 328 (CCPA 1973).

As per claim 43, Blumenau does not teach ('595) receiving a packet from an initiator destined for a virtual target and formatted in accordance with a first protocol; determining if the packet is a data or control packet; if a data packet, sending the packet to a physical target formatted in accordance with a second protocol; and wherein all of the above steps are performed without buffering. However, Blumenau ('120) teaches it in figures 1-4, 7, 21-30 and column 24, lines 56-67, columns 25 and 26, abstract, column 12, lines 9-15, column 13, lines 1-10. (Note, when the storage is denied the packet/data is a control packet to perform a function, data packet includes, but not limited to video data). Thus, it would have been obvious to one skill in the art to combine Blumenau's inventions in order to minimize the number of servers by reducing the number of objects to be managed.

As per claim 44, Blumenau (both) teaches the steps performed at wire speed (figures 1-5).

As per claim 24, Blumenau ('595) teaches a plurality of linecards, each including a plurality of ports and a plurality of processing units, wherein each processing unit is associated with at least one port, thereby distributing processing resources amongst

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linecards ports (column 5, lines 13-31, figures 1-3). Blumenau ('595) does not teach a plurality of initiators and targets, wherein a first set of initiators and targets operate in accordance with a first protocol and a second set of initiators and targets operate in accordance with a second protocol, and wherein a third set of initiators and targets are local with respect to the switch and a fourth set of initiators and targets are remote with respect to the switch. However, Blumenau ('595) teaches it in figures 1-4, 21-23, 37-40. Thus, it would have been obvious to one skill in the art to combine Blumenau's inventions in order to minimize the number of servers by reducing the number of objects to be managed.

As per claim 25, Blumenau ('595) does not teach the first set, the second set, the third set, and the fourth set are not mutually exclusive. However, Blumenau ('120) teaches the first set, the second set, the third set, and the fourth set are not mutually exclusive (figures 1-4, 21-23, 37-40). Thus, it would have been obvious to one skill in the art to combine Blumenau's inventions in order to minimize the number of servers by reducing the number of objects to be managed.

As per claim 26, Blumenau ('595) does not teach plurality of switches, each switch including a plurality of linecards, each linecard including a plurality of ports and a plurality of processing units, wherein each processing unit is associated with at least one port, wherein some of the switches are remotely located with respect to other switches. However, Blumenau ('120) teaches it in figures 1-4, 21-23, 37-40. Thus, it would have been obvious to one skill in the art to combine Blumenau's inventions in

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order to minimize the number of servers by reducing the number of objects to be managed.

As per claim 28, Blumenau ('595) does not teach processing data packets, including virtualization and translation, at wire speed. However, Blumenau ('120) teaches it in figures 1-4, 7, 21-30 and column 24, lines 56-67, columns 25 and 26. Thus, it would have been obvious to one skill in the art to combine Blumenau's inventions in order to minimize the number of servers by reducing the number of objects to be managed.

As per claim 29, Blumenau ('595) teaches the packets formatted in accordance with any respective one of a plurality of protocols (column 9, lines 35-43).

As per claim 32, Blumenau ('595) does not teach plurality of switches, each including a plurality of linecards, each including a plurality of ports and a plurality of processing units, wherein each processing unit is associated with at least one port, and wherein additional/removed switches can be added to the plurality of switches. However, Blumenau ('120) teaches it in figures 2, 38, 40, column 10, lines 5-13. Thus, it would have been obvious to one skill in the art to combine Blumenau's inventions in order to minimize the number of servers by reducing the number of objects to be managed.

As per claims 34 and 38, Blumenau ('595) does not teach plurality of switches, each switch including a plurality of linecards, each linecard including a plurality of ports and a plurality of processing units, wherein each processing unit is associated with at least one port, wherein only one management station is required to manage the plurality

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of switches (figures 16 – where the system administrator grants access based on his/her criteria). Thus, it would have been obvious to one skill in the art to combine Blumenau's inventions in order to minimize the number of servers by reducing the number of objects to be managed.

Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau et al (6,438,595) in view of Blumenau et al (6,260,120), further in view of Madonna et al (5,596,569).

Blumenau does not teach how to add/insert and/or remove a plurality of linecards. However, Madonna teaches how to add and/or remove a plurality of linecards (column 7, lines 20-24). Thus, it would have been obvious to one skill in the art to combine Madonna's architecture of linecards with Blumenau's inventions in order to allow each card to function as if it was in isolation from the other cards of the switch; so, the desired DSP and packet engine functions are not lost by a single failure.

Claims 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau et al (6,438,595) in view of Nguyen et al (2002/0004883).

As per claim 19, Blumenau does not teach a traffic manager in communication with each processing unit. However, Nguyen teaches the traffic manager in communication with each processing unit (paragraph [0030], figures 1-8). Thus, it would

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have been obvious to one skill in the art to combine Blumenau's invention with Nguyen's virtualization process in order to control storage device allocation and configuration and achieve the required data rate.

As per claim 22, Blumenau does not teach data packet virtualization. However, Nguyen teaches the data packet virtualization (paragraphs [0025]-[0028], [0037]). Thus, it would have been obvious to one skill in the art to combine Blumenau's invention with Nguyen's virtualization process in order to control storage device allocation and configuration and achieve the required data rate.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau et al (6,438,595) in view of Nguyen et al (2002/0004883), further in view of Blumenau et al (6,260,120).

Neither Blumenau ('595) nor Nguyen teaches classifying packet as data packets or control packets. However, Blumenau et al ('120) teaches it in figures 1-4, 7, 21-30 and column 24, lines 56-67, columns 25 and 26, abstract, column 12, lines 9-15, column 13, lines 1-10. (Note, when the storage is denied the packet/data is a control packet to perform a function, data packet includes, but not limited to video data). Thus, it would have been obvious to one skill in the art to combine Blumenau's inventions with Nguyen in order to minimize the number of servers by reducing the number of objects to be managed.

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al (2002/0004883), further in view of Blumenau et al (6,438,595).

As per claim 36, Nguyen does not teach the plurality of linecards, each linecard including a plurality of ports and a plurality of processing units, wherein each processing unit is associated with at least one port. However, Blumenau teaches it in column 5, lines 13-31, and figures 1-3. Thus, it would have been obvious to one skill in the art to combine Nguyen's invention with Blumenau's linecards arrangement in order to minimize the number of servers by reducing the number of objects to be managed.

Claims 37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen et al (2002/0004883) in view of Blumenau et al (6,260,120).

As per claim 37, Nguyen does not teach a plurality of switches. However, Blumenau teaches a plurality of switches in column 10, lines 5-8. Thus, it would have been obvious to one skill in the art to combine Nguyen's invention with Blumenau's switches in order to minimize the number of servers by reducing the number of objects to be managed.

As per claim 39, Nguyen does not teach the switches being remotely located with respect to other switches. However, Blumenau teaches it in figures 2, 4, 21, 22, 37 and 38. Thus, it would have been obvious to one skill in the art to combine Nguyen's invention with Blumenau's switches in order to minimize the number of servers by reducing the number of objects to be managed.

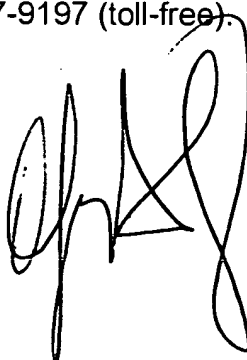
Claim Objections

Claim 9 is objected to because of the following informalities: it does not have an end period. Appropriate correction is required.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga Hernandez whose telephone number is 571-272-7144. The examiner can normally be reached on Mon-Thu 8:30am-7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'OH' with a large loop, representing Olga Hernandez.

Olga Hernandez
Examiner
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